

Application No.: 09/540,828
Response dated October 16, 2003
Reply to Office Action of June 17, 2003

REMARKS/ARGUMENTS

The above-identified patent application has been amended and reconsideration and re-examination are hereby requested.

With regard to the provisional double patenting rejection, it is respectfully noted that this is a provisional rejection and will be addressed when claims in this application have been allowed since only then can the issue be considered by the applicant.

Applicant wishes to make of record a telephone interview held with Examiner Nguyen on October 14, 2003. Applicant discussed FIG. 2 of the patent application and FIGS. 2 and 3 of Martin et al., U.S. Patent No. 5,214,768. Applicant described, with reference to FIG. 2 of the patent application, that data passed between the host computer and disk drives through the global cache memory with messages passing between the directors through the message network. Thus, the messages do not pass through the global cache memory, whereas the data does pass through the global cache memory. No agreement was reached.

Claims 1-56 stand rejected as being anticipated by Martin et al. U. S Patent No. 5,214,7658.

It is first noted that Martin et al. do not have a system wherein a cache memory is coupled to the plurality of first and second directors where data is transferred between first directors and the second directors through the cache memory in response to messages passing between the first directors and the second directors through the messaging network. The examiner is respectfully requested to point out where such a cache memory is coupled to the plurality of first and second directors with data being transferred between first directors and the second directors through the cache memory in response to messages passing between the first directors and the second directors through the messaging network.

It is next noted that Martin et al. do not have a packet switching network where the messages are sent as packets, each packet having a destination field as set forth in new claims 53-66.

The examiner states in the rejection that, in applying Martin et al.:

... to facilitate data transfer between first directors and the second

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directors such data passing through the cache memory in the data transfer section (see column 7 lines 63-68 and column 8 lines 1-18).

Column 7 lines 63-68 and column 8 lines 1-18 are:

The drive unit 44 has a multiplicity of drive subsystems 48, each of which comprises a drive controller module 94 (DCM) and a recorder module 96 (RM). The main function of the drive subsystem 48 (DRS) is to record data on and playback recorded digital data from cassettes in the MSL. DRS 48 interfaces with the switch subsystem 42 (SWS), the transport subsystem 56 (TRS) and the control subsystem 40 through the control LAN 95. The DRS 48 interface with the SWS 42 and the control LAN 95 is an electrical interface while the interface to the TRS 56 is a mechanical interface in which storage media are retrieved or inserted by a robotic function. The DCM 94 interfaces with the MSL control LAN 95 to receive commands from and return subsystem status to the CNS 40.

When a read or write operation is to be performed, the commanded IFS 14, 16, 18 or 21 requests resources from the CNS 40. CNS 40 responds with a resource allocation list that contains the allocated drive subsystem 48. The allocated DRS 48 is commanded throughout the read/write operation by that IFS 14, 16, 18 or 21 via a data channel through the SWS 42. Once the operation is complete, status is returned from the DRS 48 to the controlling IFS 14, 16, 18 or 21.

Applicant respectfully requests that the Examiner point out:

- (1) which element in Martin et al. does the Examiner consider the cache memory; and
- (2) which element in Martin et al. does the Examiner consider the cache memory;; and
- (3) where is there a data transfer between first directors and the second directors with such data passing through the cache memory in response to messages passing between the first directors and the second directors through the messaging network.

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REQUEST FOR TELEPHONE INTERVIEW

If, after reviewing this response, the Examiner still maintains a rejection of the claims, applicant's attorney hereby requests a telephone interview with the Examiner in order to discuss any issues prior to issuing any office action. The Applicant's attorney can be reached at either the number listed below or at 508 4877 4311.

Referring now to the independent claims:

Claim 1 points out that:

such cache memory being coupled to the plurality of first and second directors; ...

a messaging network, operative independently of the data transfer section, coupled to the plurality of first directors and the plurality of second directors

wherein the first and second directors control data transfer between the first directors and the second directors in response to messages passing between the first directors and the second directors through the messaging network to facilitate data transfer between first directors and the second directors with such data passing through the cache memory ... (emphasis added)

It is respectfully requested that the Examiner point out:

(1) which element in Martin et al. is the cache memory where such cache memory is coupled to the plurality of first and second directors;

(2) which element in Martin et al. is a messaging network, operative independently of the data transfer section, coupled to the plurality of first directors and the plurality of second directors
and

(3) where in Martin et al. the first and second directors control data transfer between the first directors and the second directors in response to messages passing between the first directors and the second directors with such data passing through the cache memory.

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Claim 8 points out that:

a data transfer section having a cache memory, such cache memory being coupled to the plurality of first and second directors;

...

a messaging network, operative independently of the data transfer section, coupled to the plurality of first directors and the plurality of second directors;

wherein the first and second directors control data transfer between the host computer and the bank of disk drives in response to messages passing between the first directors and the second directors through the messaging network to facilitate the data transfer between host computer/server and the bank of disk drives with such data passing through the cache memory.. (emphasis added)

It is respectfully requested that the Examiner point out:

(1) which element in Martin et al. is the cache memory where such cache memory is coupled to the plurality of first and second directors;

(2) which element in Martin et al is a messaging network, operative independently of the data transfer section, coupled to the plurality of first directors and the plurality of second directors; and

(3) where in Martin et al. the first and second directors control data transfer between the host computer and the bank of disk drives in response to messages passing between the first directors and the second directors with such data passing through the cache memory.

Claim 15 points out that the method includes:

transferring messages through a messaging network with the data being transferred between the host computer/server and the bank of disk drives through a cache memory, such message network being independent of the cache memory. (emphasis added)

It is respectfully requested that the Examiner point out:

(1) where, in Martin et al., is the cache memory; and

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(2) where in Martin et al, is the data being transferred between the host computer/server and the bank of disk drives through a cache memory, such message network being independent of the cache memory.

Claim 16 points out:

transferring the data between the host computer/server and the bank of disk drives under control of the first and second directors in response to messages passing between the first directors and the second directors through a messaging network to facilitate the data transfer between host computer/server and the bank of disk drives with such data passing through the cache memory in the data transfer section, such message network being independent of the cache memory. (emphasis added)

It is respectfully requested that the Examiner point out:

(1) where, in Martin et al., is the cache memory; and
(2) where in Martin et al, is the data being transferred between the host computer/server and the bank of disk drives such data passing through the cache memory in the data transfer section, such message network being independent of the cache memory.

Claim 17 includes:

a data transfer section having a cache memory, such cache memory being coupled to the plurality of first and second directors

...

providing a messaging network, operative independently of the data transfer section, coupled to the plurality of first directors and the plurality of second directors to control data transfer between the first directors and the second directors in response to messages passing between the first directors and the second directors through the messaging network to facilitate data transfer between first directors and the second directors with such data passing through the cache memory (emphasis added)

It is respectfully requested that the Examiner point out:

(1) where, in Martin et al., is the cache memory; and

(2) where in Martin et al, is a messaging network, operative independently of the data transfer section, coupled to the plurality of first directors and the plurality of second directors to control data transfer between the first directors and the second directors in response to messages passing between the first directors and the second directors through the messaging network to facilitate data transfer between first directors and the second directors with such data passing through the cache memory

Claim 25 points out:

a data transfer section having a cache memory, such cache memory being coupled to the plurality of first and second directors;

...

wherein the first and second directors control data transfer between the first directors and the second directors in response to messages passing between the first directors and the second directors through the messaging network to facilitate data transfer between first directors and the second directors with such data passing through the cache memory in the data transfer section. (emphasis added)

It is respectfully requested that the Examiner point out:

(1) where, in Martin et al., is the cache memory; and

(2) where in Martin et al, the first and second directors control data transfer between the first directors and the second directors in response to messages passing between the first directors and the second directors through the messaging network to facilitate data transfer between first directors and the second directors with such data passing through the cache memory.

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Claim 26 points out:

a data transfer section having a cache memory, such cache memory being coupled to the plurality of first and second directors;

...

a messaging network comprising a switch network having a plurality of ports, each one of the ports being coupled to a corresponding one of the plurality of first directors and second directors, such message network being operative independently of the data transfer section;

wherein the first and second directors control data transfer between the first directors and the second directors in response to messages passing between the first directors and the second directors through the messaging network with such messages by-passing the data transfer section and with such data transfer comprising passing data through the directors to the cache memory in the data transfer section.(emphasis added)

It is respectfully requested that the Examiner point out:

(1) where, in Martin et al., is the cache memory; and

(2) where in Martin et al, is a messaging network comprising a switch network having a plurality of ports, each one of the ports being coupled to a corresponding one of the plurality of first directors and second directors, such message network being operative independently of the data transfer section; and

(3) where in Martin et al, a first and second directors control data transfer between the first directors and the second directors in response to messages passing between the first directors and the second directors through the messaging network with such messages by-passing the data transfer section and with such data transfer comprising passing data through the directors to the cache memory.

Claim 28 points out:

a data transfer section having a cache memory, such cache memory being coupled to the plurality of first and second directors;

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...
wherein the first and second directors control data transfer between the first directors and the second directors in response to messages passing between the first directors and the second directors through the messaging network with such messages by-passing the data transfer section and with such data transfer comprising passing data through the directors to the cache memory in the data transfer section. (emphasis added)

It is respectfully requested that the Examiner point out:

- (1) where, in Martin et al., is the cache memory; and
- (2) where in Martin et al, wherein the first and second directors control data transfer between the first directors and the second directors in response to messages passing between the first directors and the second directors through the messaging network with such messages by-passing the data transfer section and with such data transfer comprising passing data through the directors to the cache memory in the data transfer section.

Claim 30 points out:

a data transfer section having a cache memory, such cache memory being coupled to the plurality of first and second directors;

...
wherein the first and second directors control data transfer between the first directors and the second directors in response to messages passing between the first directors and the second directors through the messaging network with such messages by-passing the data transfer section and with such data transfer comprising passing data through the directors to the cache memory.... (emphasis added)

It is respectfully requested that the Examiner point out:

- (1) where, in Martin et al., is the cache memory; and

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(2) where in Martin et al, the first and second directors control data transfer between the first directors and the second directors in response to messages passing between the first directors and the second directors through the messaging network with such messages by-passing the data transfer section and with such data transfer comprising passing data through the directors to the cache memory.

Claim 31 points out:

a data transfer section having a cache memory, such cache memory being coupled to the plurality of directors;

...

a messaging network, operative independently of the data transfer section, coupled to the plurality of directors; ;

wherein the directors control data transfer in response to messages passing between the directors through the messaging network with such data passing through the cache memory. (emphasis added)

It is respectfully requested that the Examiner point out:

(1) where, in Martin et al., is the cache memory; and

(2) where in Martin et al, is a messaging network, operative independently of the data transfer section, coupled to the plurality of directors;

(3) where in Martin et al, is the directors control data transfer in response to messages passing between the directors through the messaging network with such data passing through the cache memory.

Claim 35 points out:

a data transfer section having a cache memory, such cache memory being coupled to the plurality of first and second directors;

...

a messaging network, operative independently of the data transfer section, coupled

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to the plurality of first directors and the plurality of second directors; and
wherein the first and second directors control data transfer between the host computer and the bank of disk drives in response to messages passing between at least a pair of the plurality of first and second directors through the messaging network with such data passing through the cache memory...(emphasis added)

It is respectfully requested that the Examiner point out:

- (1) where, in Martin et al., is the cache memory; and
- (2) where in Martin et al. first and second directors control data transfer between the host computer and the bank of disk drives in response to messages passing between at least a pair of the plurality of first and second directors through the messaging network with such data passing through the cache memory in the data transfer section

Claim 39 points out:

a data transfer section having a cache memory, such cache memory being coupled to the plurality of directors;
...
a messaging network, operative independently of the data transfer section,
coupled to the plurality of directors; and
wherein the directors control data transfer in response to messages passing between the directors through the messaging network with such data passing through the cache memory... (emphasis added)

It is respectfully requested that the Examiner point out:

- (1) where, in Martin et al., is the cache memory; and
- (2) where in Martin et al. the directors control data transfer in response to messages passing between the directors through the messaging network with such data

passing through the cache memory.

Claim 43 points out:

a data transfer section having a cache memory, *such cache memory being coupled to the plurality of directors;*

...

such message network being operative independently of the data transfer section; and

wherein the directors control *data* transfer in response to messages passing between the directors through the messaging network *with such data passing through the cache memory....* (emphasis added)

It is respectfully requested that the Examiner point out:

(1) where, in Martin et al., *is the cache memory;* and

(2) where in Martin et al. the directors control *data* transfer in response to messages passing between the directors through the messaging network *with such data passing through the cache memory.*

Claim 44 points out:

a data transfer section having a cache memory, *such cache memory being coupled to the plurality of directors;*

...

, such message network being operative independently of the data transfer section; and

wherein the directors *control data transfer* in response to messages passing between the directors through the messaging network *with such messages by-passing the data transfer section* and with such *data transfer comprising passing data through the directors to the cache memory in the data transfer section.*(emphasis added)

It is respectfully requested that the Examiner point out:

- (1) where, in Martin et al., is the cache memory; and
- (2) where in Martin et al. the directors control data transfer in response to messages passing between the directors through the messaging network with such messages by-passing the data transfer section and with such data transfer comprising passing data through the directors to the cache memory in the data transfer section.

Claim 46 points out:

a data transfer section having a cache memory, such cache memory being coupled to the plurality of directors;

wherein the first and second directors control data transfer in response to messages passing between the directors through the messaging network with such messages by-passing the data transfer section and with such data transfer comprising passing data through the directors to the cache memory in the data transfer section.(emphasis added)

It is respectfully requested that the Examiner point out:

- (1) where, in Martin et al., is the cache memory; and
- (2) where in Martin et al. the first and second directors control data transfer in response to messages passing between the directors through the messaging network with such messages by-passing the data transfer section and with such data transfer comprising passing data through the directors to the cache memory in the data transfer section.

Claim 48 points out:

a data transfer section having a cache memory, such cache memory being coupled to the plurality of directors;

wherein the directors control data transfer in response to messages passing between the directors through the messaging network with such

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messages by-passing the data transfer section and with such data transfer comprising passing data through the directors to the cache memory in the data transfer section. (emphasis added)

It is respectfully requested that the Examiner point out:

- (1) where, in Martin et al., is the cache memory; and
- (2) where in Martin et al. the directors control data transfer in response to messages passing between the directors through the messaging network with such messages by-passing the data transfer section and with such data transfer comprising passing data through the directors to the cache memory in the data transfer section.

Claim 49 point out:

a messaging network, operative independently of the data transfer section, coupled to the plurality of directors; and

wherein the directors control data transfer in response to messages passing between the directors through the messaging network with such data passing through the cache memory in the data transfer section. (emphasis added)

It is respectfully requested that the Examiner point out:

- (1) where, in Martin et al., is the cache memory; and
- (2) where in Martin et al. the directors control data transfer in response to messages passing between the directors through the messaging network with such data passing through the cache memory in the data transfer section.

Claim 53 points out:

a data transfer section having a cache memory, such cache memory

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being coupled to the plurality of first and second directors;

wherein the first and second directors control data transfer between the host computer and the bank of disk drives in response to messages passing between at least a pair of the plurality of first and second directors through the messaging network with such data passing through the cache memory in the data transfer section. (emphasis added)

It is respectfully requested that the Examiner point out:

(1) where, in Martin et al., is the cache memory; and

(2) where in Martin et al. the first and second directors control data transfer between the host computer and the bank of disk drives in response to messages passing between at least a pair of the plurality of first and second directors through the messaging network with such data passing through the cache memory in the data transfer section

In the event any additional fee is required, please charge such amount to Patent and Trademark Office Deposit Account No. 50-0845.

Respectfully submitted,

Date

10-16-03



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